6/26/02-01098

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

DIVISION OF WASTE PROGRAM COORDINATION

OFFICE OF REMEDIATION PROGRAMS

MEMORANDUM

TO: Devlin Harris

FROM: Jennifer Jones/Pat McMurray

DATE: June 26, 2002

SUBJECT: Norfolk Naval Station, SWMU 14 RI

After reviewing the Human Health and Ecological Risk Assessments in the Remedial Investigation SWMU 14, Q-50 Satellite Accumulation Area, I have made the following comments.

Human Health RA

Table 2.7. Beginning with iron, in the maximum concentration column, some numbers are shown with up to 3 decimal places of zeros behind them, while the rest are not. The table would be easier to review without extraneous zeros, especially when the print is small and it's difficult to distinguish a comma from a decimal in some cases. Also, the screening value for chromium is incorrect, it should be 1.1E+02. This eliminates chromium as a COPC in surface water.

Table 5.1. The following target organs can be added to the table.

Nickel – kidney, liver, spleen
Thallium – liver, blood, hair
Cyanide – thyroid, CNS
Aroclor 1254 – eyes
Chromium – GI tract
Vanadium – liver
Barium – cardiovascular
Benzene – immune system

Table 5.2. Please add fetus to the target organ for Barium.

Table 6.1. The following weight of evidence/carcinogenic groups should be changed:

- Copper, cyanide, mercury, silver, acetone, chlorobenzene, acenaphthylene, dibenzofuran should all be classified as D carcinogens.

- According to IRIS, 2- methylphenol and 4-methylphenol should be classified as C carcinogens.
- According to HEAST, gamma-BHC (lindane) should be classified as a B2/C carcinogen. Region III RBC Tables also indicate that it is a carcinogen.
- Thallium, vanadium and indeno(1,2,3-cd)pyrene are listed in the table twice.
- It would be helpful if this table was organized either alphabetically or by categories like the other tables.

Table 6.2.

- VDEQ recognizes nickel as an A carcinogen for inhalation based on the IRIS classification for nickel refinery dust and the unit risk of 0.24 mg/m^3 and a slope factor of 0.84 mg/kg-day. HEAST also contains the slope factor.
- Copper, cyanide, mercury, acetone, chlorobenzene, acenaphthylene, dibenzofuran and flourene should all be classified as D carcinogens.
- According to IRIS, naphthalene should be classified as a C carcinogen for inhalation.
- According to HEAST, gamma-BHC (lindane) should be classified as a B2/C carcinogen. Region III RBC Tables also indicate that it is a carcinogen.

Table 8.25. The total risk across all pathways should be 1.4×10^{-3} instead of 7.8×10^{-4}. The corresponding text is correct, only the table is incorrect.

Section 5.7.3. It would be helpful if the text included the numerical cancer risks and HIs when they exceed acceptable risk so that someone reading the text can characterize the risk without having to look through RAGS D tables to determine how much the risk exceeded acceptable levels.